

Notice of Allowability

-Application No.

10/688,518

Examiner

Jerry Martin Blevins

Applicant(s)

AOKI, SHIGENORI

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 09/19/2005.
2. ☒ The allowed claim(s) is/are 1-27.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Brian Healy
Primary Examiner

DETAILED ACTION

Response to Amendment

Examiner accepts amendment to the drawings and the necessary amendment to the specification that follows. The objection to the drawings as not showing every claimed feature is withdrawn.

Examiner accepts the amendment to claim 17. The objection to claim 17 as having improper antecedent basis is withdrawn.

Examiner accepts the explanation of claim 20 as given by applicant on pages 10 and 11 of the remarks. The rejection of claim 20 under 35 USC 112 is withdrawn.

Response to Arguments

Applicant's arguments, see pages 11 and 12 of remarks, filed 9/19/2005, with respect to claims 1-26 have been fully considered and are persuasive. The rejection of claims 1-26 has been withdrawn.

Allowable Subject Matter

Claims 1-27 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art, as best exemplified by US Pre Grant Publication to Nishizawa et al., teaches an optical deflection device for diverting the direction of light rays (paragraph 8) comprising: a plurality of deflecting elements (Figure 6, elements 40) comprising a first pair of deflecting elements (30A, 30B) and a second pair of deflecting

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elements (adjacent 30A, 30B), where each deflecting element comprises an electro-optic material (paragraphs 9, 10, 11, 14) and is defined by two electrodes of similar shape on opposite sides of the electro-optic material (paragraphs 9, 10, 11, 14, and Figure 6, elements 40), such that the index of refraction of the electro-optic material is controllably adjustable by applying a voltage difference to the electrodes (paragraphs 9, 10, 11, 14), where the first pair of deflecting elements and the second pair of deflecting elements are in a tilted relationship. (Figure 6 shows that elements 30A and 30B of each pair are in a tilted relationship). However, Nishizawa, either alone, or in combination with the prior art, does not disclose or render obvious that each pair of deflecting elements has a generally longitudinal axis and that the axis of the first pair of deflecting elements and the axis of the second pair of deflecting elements are in a tilted relationship.

Claims 2-9 are allowed based on their dependence from allowed base claim 1.

Regarding claim 10, Nishizawa teaches an optical switching module (paragraph 66) comprising: an input side (Figure 6, left side) having one or more input channels (waveguides 26) each adapted to accept an optical input, an output side (Figure 6, right side) having a plurality of output channels (waveguides 28) each adapted to deliver an optical output, and a common waveguide (22) disposed between the input side and output side, where at least input channel comprises a plurality of deflecting elements (40) comprising a first pair of deflecting elements (30A, 30B) and a second pair of deflecting elements (adjacent 30A, 30B) in a tilted relationship. However, Nishizawa, either alone or in combination with the prior art, does not disclose or render obvious that

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the pairs of deflecting elements having first and second generally longitudinal axes, respectively, wherein the first and second axes are in a tilted relationship.

Claims 11-20 are allowed based on their dependence from allowed base claim 10.

Regarding claim 21, Nishizawa teaches a method for deflecting light beams in an optical switching module (paragraphs 66-69) having an input side (Figure 6, left side) with one or more input channels (waveguides 26) each adapted to accept an optical input, an output side (Figure 6, right side) with a plurality of output channels (waveguides 28) each adapted to deliver an optical output, and a common waveguide (22) disposed between the input and the output sides, where at least one input channel comprises a plurality of deflecting elements (40) comprising a first pair of deflecting elements (30A, 30B) and a second pair of deflecting elements (adjacent 30A, 30B) in a tilted relationship, the method comprising: controlling the deflection of a light beam at the input side from a selected input channel to a selected output channel by applying different voltages to the first pair of deflecting elements and the second pair of deflecting elements (paragraphs 50 and 69). However, Nishizawa, either alone or in combination with the prior art, does not disclose or render obvious that the first pair of deflecting elements has a first generally longitudinal axis and that the second pair of deflecting elements has a second generally longitudinal axis, where the first and second axes are in a tilted relationship.

Claims 21-26 are allowed based on their dependence from allowed base claim 21.

Regarding claim 27, Nishizawa teaches an optical deflection device for diverting the direction of light rays in a controllable light path through a slab of electro-optical material (Figure 6) comprising: a plurality of deflecting electrodes (40) mounted on the slab (22) comprising a first deflecting electrode (30A) adjacent to a first position in a light path and a second deflecting electrode (30B) adjacent to a second position in the light path, said first and second electrodes being separately coupled to an adjustable electrical potential to cause deflection of the light rays (paragraphs 9-11,14). However, Nishizawa, either alone or in combination with the prior art, does not disclose or render obvious that the first and second deflecting electrodes has a generally longitudinal axis wherein the axis of the first deflecting electrode and the axis of the second deflecting electrode are in a tilted relationship.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMB

A handwritten signature in black ink, appearing to read "Brian Healy". The signature is fluid and cursive, with the first name "Brian" and last name "Healy" clearly distinguishable.

Brian Healy
Primary Examiner